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FEED STUFF ANALYSES

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ADDRESS

Chemical Department, Maryland Agricultural College

COLLEGE PARK, MD.

ANALYSES OF

Feeds Sold in Maryland

BY THE CHEMICAL DEPARTMENT OF

The Maryland Agricultural College

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This bulletin contains the results of analysis of samples feeding stuffs obtained during the year 1915. The work has been mostly limited to "concentrated feeding stuffs," as defined in the feed law. The examination of wheat bran, middlings, corn meal and similar feeds has been limited, as a rule, to a microscopic examination for adulerants and have been found practically free from adulteration and are not listed herein.

The feeds herein are, as a rule, by-products from some industry, as the manufacture of oils, alcohol, whiskey, beer, breakfast foods, etc., or mixtures of several of them with some refuse molasses. The latter has feeding value, is liked by the animal and prevents the separation of fine and heavy ingredients from the lighter bulky material of the mixture.

FEED ANALYSIS.

A complete analysis of a feed separates it into its constitutional parts, or groups of constituents having similar properties. The usual constituents are water, ash, protein, fat, fiber and nitrogen-free extract.

WATER is present in all feeds and is an important article of commerce in this way. Old grain, called "dry," will contain about 10 percent, while new grain will contain more. If the amount is over 14 or 15 percent the grain or feed is very liable to mold and ferment. Fresh fruits and vegetables, as cabbage, turnips, etc., frequently contain over 90 percent of water. The water content of feed will change on storage, the amount of change depending on the condition at the start, method of storing, temperature and

humidity of the air, etc. If the feed has been kiln-dried, as with dried brewer's or distiller's grains, molasses feed, etc., gain in weight is common. This would be indicated if the packages weigh more than the guaranteed weight and, in that case, a corresponding decrease in the percent of the other constituents should be expected. On the other hand, should the material lose moisture, a corresponding increase in the percent of the other constituents (but not in the actual amount) occurs.

The changes in moisture content are very important in connection with sampling and analysis and the proper care of samples for analysis—points which are liable to be entirely overlooked by those who have not been instructed in such matters.

ASH, as its name indicates, is the part of the feed which remains after burning. It is the mineral part, which has its origin in the minerals of the earth (soil). All other parts of the feed have their origin, either directly or indirectly, from the air.

PROTEIN, or crude protein, is the nitrogenous part, calculated from the nitrogen by multiplying it by 6.25. It includes albumens and other nitrogenous bodies not so valuable as food. Protein is essential for the formation of flesh, nerves, hair, feathers, etc., in fact nearly all tissues of the animal body, except fat, and it may serve to form fat.

FAT, or "crude fat," is the ether extract obtained by treating the dry substance with ether. In the case of grains, seeds, nuts and flesh it is nearly pure fat and oil, but with hay, grasses and coarse fodders it contains considerable amounts of wax, gum, etc. It is often a valuable constituent of feed, is the most concentrated form of energy, and serves to build fat in the animal when in excess of its immediate requirements. Large amounts of fat are not tolerated by farm animals, as a rule.

FIBER, or "crude fiber," is the fibrous, woody part, not soluble in ether, dilute acid or alkali. It is largely indigestible, but serves to give the ration proper bulk. The digestibility varies with the nature of the fiber and the kind of animal. The amount of fiber is small in flesh, cereal grains and nuts, but large in stems, stalks, hays, straws, fodders, husks, hulls, cobs, etc., and its amount, as shown by analysis, indicates the presence of such materials.

NITROGEN-FREE EXTRACT, sometimes called "carbohydrates," or "soluble carbohydrates" (thereby excluding the fiber, which is an insoluble carbohydrate), is obtained by finding the amounts of the constituents enumerated above and substracting this sum from 100 percent. It includes starch, sugars, pentosans, etc., which may be determined separately.

For inspection purposes it is generally sufficient to determine the amount of protein, fat and fiber, as this will indicate if the feed has been adulterated with inferior coarse material, such as hulls, straws, cobs, etc., as such substances are low in protein and fat but high in fiber.

A table of well-known and standard feed materials with several coarse materials is given on page 12, showing the approximate average composition for comparison with the feeds shown on the market as indicated in the following table. (Pages 4-13.) The analyses are given in percentage, or pounds in a hundred.

No.	Name of Manufacturer or Agent.	Name of Feeding Stuffs.	Place of Sampling.	Protein.		Fat or Ether Extract.		Crude Fiber.	
				Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.
29226	Ajax Milling & Feed Co., New York, N. Y.	Ajax Flakes.....	Rising Sun ..	31.15	30.00	14.55	11 00	9.47	14.00
29125	Akron Feed & Milling Co., Akron, Ohio	Portage Stock Feed	Frederick	9.21	10.00	5.12	4.00	12.88	10 00
29114	Alfalfa Milling Co., Omaha, Neb.	Green Meadow Dairy Feed	Baltimore	8.86	11.00	1.62	1.00	19.46	25.00
29269	Alfocorn Milling Co., St. Louis, Mo.	Leader Horse & Mule Feed.....	Baltimore	8.34	9.00	3.53	1.50	11.80	18.00
29264	Allen Milling Co., Niagara Falls, N. Y.	Alco-Mash for Layers..	Baltimore	18.87	20.00	4.23	3 00	7.80	8.00
29238	Amer. Agr'l Chem. Co. New York, N. Y.	Beef Scrap for Poultry.	Ellicott City...	59.58	55.00	11.28	10.00	2.67	3.00
29178	American Linseed Co. New York.	"Hypro" Pure Linseed Meal	Baltimore	38.17	36.00	3.00	2.00	8.45	9.00
29241	" " "	Old Process Linseed Oil Meal.....	Hagerstown...	35.01	34.00	6.28	5.00	7.65	8.00
29146	American Maize Products Co., New York, N. Y.	Cream of Corn Gluten Feed.....	Silver Spring..	25.62	23.00	2.14	2.50	5.72	8.50
29126	American Milling Co., Peoria, Ill.	Amco Old Process Linseed Meal.....	Silver Spring..	30.89	30.00	6.70	5 00	7.40	10.00
29205	" " "	Molasses Fat Maker....	Federalsburg..	8.86	10.00	4.20	4.00	8.42	16.00
29127	" " "	Sucrene Dairy Feed....	Silver Spring .	17.64	16 50	5.38	3.50	10.62	12.00
29284	" " "	Sucrene Hog Meal.....	Baltimore	16.23	16.00	6.03	5.00	7.40	10.00
29161	" " "	Sucrene Horse & Mule Feed.....	Annapolis	11.93	10.00	2.89	2.50	15.25	12.00
29115	" " "	Tip Top Sugar Feed....	Baltimore	14.30	12.00	7.37	2.50	10.56	12 00
29250	American Sugar Co., Croswell, Mich.	Dried Beet Pulp.....	Baltimore	8.60	8.00	1.25	.50	19.97	20.00

29109	Anheuser Bush Brewing Co., St. Louis, Mo.	Steam Dried Brewers Grains	Annapolis	27.03	23.00	7.02	7.00	14.65	15.00
29257	Archer Daniels Linseed Co., Minneapolis, Minn.	Old Process Ground Oil Cake	Annapolis	38.08	32.00	7.13	6.00	6.75	10.00
29255	Aunt Patsy Poultry Feed Co., Memphis, Tenn.	Poultry Feed	Baltimore	21.94	15 75	5.43	3.50	8.05	11.00
29220	Baltimore Distilling Co., Balto., Md.	Dried Grains	Mt. Airy	15.80	16.58	8.73	8.05	15.10	18.45
29108	M. F. Baringer, Phila., Pa.,	Distillers Dried Grains	Federalsburg	21.06	18.00	7.10	5.50	16.41	25.00
29112	" " " " "	Brewers Grains	Westminster	26.85	25.00	7.25	6.00	14.62	
29309	" " " " "	Prime Cotton Seed Meal	Baltimore	36.15	38.62	7.48	6.00	11.75	12.00
29222	Fred. Bauernschmidt, Balto., Md.	Dried Brewers Grains	Cardiff	27.64	26.00	6.58	5 00	15.17	
29164	Baugh & Sons Co., Balto , Md.	Meat Meal for Poultry	Baltimore	51.51	50.00	18.86	14.00	.97	1.00
29179	Berg Co., Philadelphia, Pa.	Three Medal Poultry Meat	Baltimore	38.96	40.00	15.44	11.00	1.20	1.00
29165	Blamberg Bros., Balto., Md.	Cornell Brand Beef Scraps	Baltimore	70.29	55.00	12.03	12.00	.57	1.00
29304	" " "	Cornell Brand Dry Mash	Baltimore	17.81	20 00	4.03	4.00	7.02	9.00
29231	Blatchford Calf Meal Factory, Waukegan, Ill.	Calf Meal	Prices	24.66	24.00	5.45	5.00	5.48	5.00
29128	" " "	Fill the Basket Egg Mash	Kensington	19.57	19 00	4.24	4.00	8.17	10.00
29188	" " "	Milk Mash	Walkersville	20.01	20.00	4.38	4.00	5.87	7.50
29162	" " "	Milk Substitute	Annapolis	25.10	24.00	5.25	5.00	5.42	5.00
29288	" " "	Pig Meal	Annapolis	17.90	18.00	3.85	5 00	6.60	7.00
29147	J. Bolgiano & Son, Balto., Md	Square Deal Beef Scraps	Silver Spring	48.52	50.00	10.79	10.00	.72	1.00
29214	" " " "	Square Deal Chick Food	Baltimore	10.09	10.01	3.15	3.89	3.87	2 76
29215	" " " "	Square Deal Pigeon Food	Baltimore	12.02	12.55	3.81	3.47	3.47	2.76
29153	" " " "	Square Deal Poultry Food	Baltimore	11.14	11.50	3.06	3.87	2.50	2.70
29189	F. W. Brode & Co., Memphis, Tenn.	Owl Brand H. G. Cotton Seed Meal	Frederick	41.63	41.00	7 61	6.00	9.65	10.00
29190	Buckeye Cotton Oil Co., Cincinnati, Ohio	Prime Cotton Seed Meal	Hagerstown	39.75	38.62	7.38	6 00	10.02	12.00
29235	Burke County Oil & Fert. Co., Waynesboro, Ga.	Cotton Seed Meal "King Cotton"	Baltimore	33.17		9.18		9.87	

No.	Name of Manufacturer or Agent.	Name of Feeding Stuffs.	Place of Sampling.	Protein.		Fat or Ether Extract.		Crude Fiber.	
				Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.
29289	Chapin & Co., Hammond, Ind.	Green Diamond Brand Choice Cotton Seed Meal	Baltimore	39.14	41.00	7.03	7.00	10 57	10.00
29295	" " " "	Lactola	Bel Air	16.32	16.05	4 33	3.00	8.65	12.00
29129	" " " "	Unicorn Dairy Ration	Rockville	26 59	26.00	6.85	5.00	10.12	10.00
29130	Clover Leaf Milling Co., Buffalo, N. Y.	Dairy Feed	Rockville	17.81	16.50	5 27	3.50	11.82	12.00
29120	" " " "	Peerless Horse Feed	Berwyn	10.97	10.00	3.31	2.00	11.91	12.00
29124	Concentrated Food Mfg. Co., Berwyn, Md.	Centro Make Egg	Hollywood	17.90		17.94		1.88	
29313	Consolidated Dressed Beef Co., Phila., Pa.	Beef Scraps	Baltimore	47.04	50.00	14.80	12.00	.52	2.00
29286	Continental Cereal Co., Peoria, Ill.	Gluten Feed	Forest Hill	26.41	29.00	9.73	10.50	6.27	8.50
29113	Corby Co., Washington, D. C.	Dried Grains	Westminster	20.53	18.00	9.03	7.00	15 86	
29191	Corn Products Refining Co., New York, N. Y.	Buffalo Corn Gluten Feed	Woodsboro	29.31	23.00	4.01	1.00	6.67	8.50
29242	" " " "	Diamond Corn Gluten Meal	Baltimore	46.07	40.00	1 63	1.50	1.15	4.00
29277	" " " "	Diamond Hog Meal	Silver Spring	23.78	20.00	9.38	9.00	10.65	13.00
29183	Dairy Food Co., Cockeysville Md.	Dairy Food	Baltimore	21.15	19.91	5.03	1.69	12.55	
29227	S. P. Davis, Little Rock, Ark.	Cotton Seed Meal	Rising Sun	43.18	41.00	7.65	6 50	7.90	7.00
29223	Dewey Bros, Co., Blanchester, Ohio.	Ready Ration	Cardiff	25.71	25.00	6.83	6.00	10.25	10.00
29192	Albert Dickinson Co., Chicago, Ill.	Globe Developing Feed.	New Midway	10.53	10.00	3.75	2.50	2.67	5.00
9158	Douglas Co., Cedar Rapids, Iowa	Corn Gluten Feed	Baltimore	25.80	23.00	2.48	2.00	5.80	8.00

29258	Early & Daniel Co., Cincinnati, Ohio.	Ce-Re-A-lia Sweets for Dairy	Hyattsville	21.59	19.00	4.95	4.00	8.28	9.00
29259	" " "	Tuxedo Chop	Baltimore	13 60	12.50	4.98	4.00	8.72	10.00
29123	Eastern Cotton Oil Co., Hertford, N. C.	Cotton Seed Meal	Westminster	40 45	41.00	7.80	5.00	8.85	10.00
29279	John F. Eby & Son, Lancaster, Pa.	Crystaloid Dairy Feed	Lineboro	19.13	16.00	6.58	3.50	11.95	12.00
29166	Edwards & Loomis Co., Chicago, Ill.	Harvest Horse Feed	Baltimore	12 37	10.00	2.35	2.00	12.05	15.00
29131	" " " "	Red Comb Poultry Feed	Hagerstown	10.35	10.00	3.47	2.00	2.17	
29234	Chas. England & Co., Baltimore, Md.	Distillers Dried Rye Grains	Kennedyville	14.48		7.75		12.50	
29297	John W. Eshelman, Lancaster, Pa.	Laying Mash	Baltimore	23.48	20.00	7.30	5.00	5.60	6.00
29194	Farmers Feed Co., Buffalo, N. Y.	Bull Brand Dried Brewers Grains	Walkersville	27 38	27.00	6.85	6.50	13.07	16.17
29176	J. M. Frisch & Co., Baltimore, Md.	Choice Cotton Seed Meal	Baltimore	41 63	41.00	7.88	8.00	8.97	9.00
29155	" " " " "	Dried Brewers Grains	Baltimore	27 47	25 00	6.44	6.00	14.00	13.00
29184	" " " " "	Old Process Oil Meal	Marion Station	32 82	30.00	8 09	5.00	7.07	7.00
29207	Fritz & Co., Philadelphia, Pa.	Beef Scraps	Baltimore	54.32	50.00	12.70	10.00	.55	1.00
29210	Fort Worth Cotton Oil Co., Forth Worth, Texas	Prime Cotton Seed Meal	Salisbury	47.65	44.00	6.70	7.00	6.22	9.00
29232	C. A. Gambrill Mfg. Co., Balto., Md.	Patapsco Horse Feed	McDaniels	9.39	11.75	4.10	4.60	4.10	7.50
29278	Gambrill-Thomas Co., Frederick, Md.	Dairy Feed	Elk Mills	16.32	16.50	5.60	3.50	8 90	14.00
29216	Golden Grain Milling Co., East St. Louis, Ill.	Puritan Horse & Mule Feed	Baltimore	9.92	9.00	3.10	1.50	13.70	12.00
29228	Goldsboro Pure Feed Co., Goldsboro, Pa.	Cane Molasses Dairy Feed Gold-o-	Colora	17.64	22.00	5.68	6.00	11.72	10.00
29195	Dwight E. Hamlin & Co., Pittsburgh, Pa.	Alfalfa Feed for Milch Cows	Hagerstown	19.83	20.00	5 25	3.50	14.70	16.00
29196	" " " " "	Horse, Mule & Dairy Feed	Hagerstown	15 36	14.00	4.45	3.50	13 67	16.00
29132	" " " " "	Ohio Valley Dairy Feed	Hagerstown	19 48	16 00	6.26	3.00	9.95	15.00
29256	Hen-E-Ta Bone Co., Newark, N. J.	Hen-O-la Dry Mash	Baltimore	10.79	12.00	3.22	2.00	4.80	4.00

No.	Name of Manufacturer or Agent	Name of Feeding Stuffs	Place of Sampling	Protein.		Fat or Ether Extract.		Crude Fiber.	
				Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.
29133	Howard H. Hanks Co., Chicago, Ill.	Golden Egg Meat Mash.	Silver Spring..	15.01	15.00	3.59	4.00	7.95	8.00
29134	" " " "	Golden Egg Scratch Feed.....	Silver Spring..	10.97	10.00	3.16	2.60	3.02	5.00
29148	" " " "	King Falfa Horse Feed.	Hyattsville....	13.43	9.00	2.61	2.00	10.62	15.00
29292	G. A. Hax & Co., Balto., Md.	Dried Brewers Grains..	Baltimore. ...	26.41	28.50	7.00	6.75	14.80	12.75
29219	Highland Park Mfg. Co., Rock Hill, S. C.	Cotton Seed Meal	Germantown ..	43.79	41.00	8.18	4.00	7.28	10.00
29105	Hottelet & Co., Milwaukee, Wis.	Distillers Grains.....	Fallston.....	12.55	18.00	3.40	6.00	22.85	14.00
29119	" " "	Dried Beet Pulp.....	Baltimore	8.95	8.00	.61	.50	19.98	20.00
29135	Imperial Cotto Milling Co., Memphis, Tenn.	Choice Cotton Seed Meal	Hagerstown...	42.74	41.00	9.68	8.00	6.37	9.00
29265	International Sugar Feed Co., Minneapolis, Minn.	Climax Dairy Feed.....	Baltimore.....	12.55	12.50	5.83	4.00	13.32	12.00
29293	" " " "	Cow Feed	Salisbury.....	12.55	16.50	5.53	3.50	11.82	14.00
29157	" " " "	Dairy Feed	Baltimore	15.01	15.00	5.92	4.50	11.82	12.00
29299	" " " "	Dan Patch Horse Feed Special.....	Salisbury.....	9.74	9.00	3.85	2.25	11.25	12.50
29266	" " " "	International Jewel	Baltimore	7.72	9.00	3.18	2.00	12.82	12.50
29186	R. D. Johnson Milling Co., Cumberland, Md.	Atlas Brand Scratch Feed	Cumberland...	11.50		3.46		2.48	
29187	" " " " "	Atlas Brand Stock Feed	Cumberland...	12.16		3.86		17.20	
29106	K. & E. Neumond, St. Louis, Mo.	Dried Brewers Grains ..	Fallston.....	27.29	24.00	7.20	6.00	13.49	13.00
29136	Kershaw Oil Mill, Kershaw, S. C.	Palmetto Brand Cotton Seed Meal.....	Rockville.....	41.02	41.00	7.22	6.00	8.39	10.00
29305	Korn Falfa Milling Co., Kansas City, Mo.	Kanoy Feed.....	Baltimore	12.46	9.00	8.03	2.50	9.60	12.00

29211	Chas. A. Krause Milling Co., Milwaukee, Wis.	Badger Dairy Feed.....	Derwood	17.20	16.00	5.58	2.00	10.95	15.00
29287	" " " " "	Badger Horse Feed.....	Cardiff	10.18	10.00	3.03	2.00	14.17	12.00
29272	" " " " "	Hampton Dairy Feed...	Frederick.....	15.09	16.50	5.43	3.50	9.75	14.00
29121	Larrowe Milling Co., Detroit, Mich.	Buckwheat Offal Feed..	Baltimore	9.92	10.00	2.31	2.25	29.75	30.00
29163	" " "	Dried Beet Pulp.....	Annapolis	9.39	8.00	.98	.50	17.97	20.00
29137	" " "	Larro-Feed.....	Silver Spring..	21.06	19.00	4.79	3.00	11.67	14.00
29306	J. M. MacDonald Co., Cincinnati, Ohio.	Cotton Seed Meal	Baltimore	41.94	41.00	6.30	6.00	8.35	12.00
29149	McDowell & Sons, Washington, D. C.	Columbia Hen Mash...	Hyattsville....	19.39	18.00	4.76	3.50	8.83	9.00
29117	Marion Harper Cotton Oil Co., East Pt., Ga.	Standard Grade Cotton Seed Meal.....	Baltimore	39.75		10.87		8.51	
29270	Meridian Grain & Elevator Co., Meridian, Miss.	Tip Top Choice Cotton Seed Meal.....	Baltimore	39.49	41.00	8.47	6.50	8.70	10.00
29208	H. B. Messenger, Federalsburg. Md.	Horse Feed	Federalsburg..	12 29		4.05		5.62	
29217	Metzger, Seed & Oil Co., Toledo, Ohio.	Old Process Oil Meal...	Baltimore.....	30.27	30.00	6.70	5.00	8.97	2.00
29197	Milwaukee Grain & Feed Co., Milwaukee. Wis.	Crown Brewers Dried Grains	Walkersville ..	31.59	25.00	6.75	6.00	12.15	16.00
29221	Monumental Brewing Co., Balto., Md.	Dried Brewers Grains..	Woodbine	25.18	24.00	7.23	6.00	14.47	15.20
29150	Joel Moores & Co., Balto., Md,	Ground Beef Cracklings	Baltimore.....	68.71	50.00	11.92	12.00	.50	
29174	National Oats Co., St. Louis, Mo.	Nutro Hen Feed	Baltimore.....	10.35	10.00	4.21	3.00	2.12	5.00
29198	New Oxford Pure Feed Co., New Oxford, Pa.	Ox-O Pure Cane Molasses Dairy Feed No. 1.	Ladiesburg ..	30.27	28.00	7.10	5.00	10.77	8.00
29199	" " " " "	Ox-O Pure Cane Molasses Dairy Feed No. 2.	Ladiesburg....	19.92	19.00	6.09	3.50	13.05	11.00
29200	" " " " "	Ox-O Pure Cane Molasses Horse & Mule Feed ..	Ladiesburg....	17.55	17.00	5.23	4.50	11 25	9.00
29201	" " " " "	Ox-O Pure Cane Molasses Swine Feed.....	Ladiesburg....	21.24	20.00	5.42	4.50	6.90	5.50
29122	Norton & Co., Washington, D. C.	H. G. Meat Meal.....	Hyattsville....	59.67	60.00	10.60	10.00	.86	

ANALYSIS OF FEEDING STUFFS.

No.	Name of Manufacturer or Agent.	Name of Feeding Stuffs.	Place of Sampling.	Protein.		Fat or Ether Extract.		Crude Fiber.	
				Fouud.	Guaranteed.	Fouud.	Guaranteed.	Found.	Guaranteed.
29252	North-West Mills Co., Winona, Minn.	Sugarota Calf Meal.....	Baltimore.....	23.43	25.00	5.43	6.00	8.90	6.00
29262	G. Ober & Sons Co., Baltimore, Md.	Royal Crown Beef Meat	Baltimore....	64.32	50.00	13.25	12.00	.72	1.00
29300	P. F. Obrecht & Son, Balto., Md.	A-1 Alfa Special Feed..	Baltimore.....	11.50		3.70		8.85	
29310	Omaha Alfalfa Milling Co., Omaha, Neb.	A1-Corn-O Horse Feed.	Baltimore.....	12 59	10.00	1.91	2.00	12.91	12.00
29206	" " " "								
29290	" " " "	Alfalmo Feed.....	Federalsburg..	9.74	11.00	2.30	1.00	15.90	25.00
29291	" " " "	Cream Alfalfa Dairy Feed No. 1.....		19.74		4.70		12.25	
29301	" " " "	Cream Alfalfa Dairy Feed No. 2.....		13.34		5.04		12.52	
29138	" " " "	Green Meadow Dairy Feed.....	Baltimore.....	8.86	11.00	2.75	1.00	19.01	25.00
29202	Park & Pollard Co., Boston, Mass.	Peerless Alfalmo Horse Feed.....	Kensington....	10.62	10.00	2.25	2.00	11.02	12.00
29293	" " " " "	Dry Mash.....	Funkstown....	19.31	18.00	3.91	3.50	7.47	12.00
29203	" " " " "	Growing Feed.....	Baltimore.....	14.04	10.00	4.75	3.50	4.92	8.00
29294	" " " " "	Horse Feed	Funkstown....	10.44	8.00	2.51	2.50	9.17	12.00
29175	Patapsco Guano Co., Baltimore, Md.	L. or B. Dry Mash.....	Baltimore.....	17.81	18.00	3 80	3.50	7.25	12.00
29276	G. E. Patteson & Co., Memphis, Tenn.	Beef Scrap for Poultry.	Baltimore.....	69.06	55.00	10.48	10.00	.60	3 00
29307	" " "	Alfa Cane Stock Feed..	Baltimore.....	7.16	8.30	1.59	1.50	14 00	20.00
29308	" " "	Chieftain Horse Feed...	Baltimore.....	9.48	9.00	2.40	2.00	12.60	12.00
		Mol-Ha Mixing Feed...	Baltimore.....	5.44	3.50	1.55	1.00	15.77	19.00

29296	" " "	Novo Dairy Feed.....	Baltimore.....	16.06	17.50	3.90	2.50	18.40	17.00
29268	" " "	Rex Horse & Mule Feed	Baltimore.....	11.14	9.00	2.25	2.00	11.70	12.00
29180	M. C. Peters Mills Co., Omaha, Neb.	Arab Horse Feed.....	Salisbury.....	11.14	8.00	3.40	2.00	9 40	15.00
29185	" " "	King Corn Feed.....	Baltimore.....	11.41	9.00	1.93	1.50	13.92	18.00
29311	" " "	Re-Peter Feed.....	Baltimore.....	11.23	9.00	3.55	1.50	9.77	18.00
29239	Quaker Oats Co., Chicago, Ill.	Blue Ribbon Dairy Feed	Ellicott City...	25.97	25.00	4.63	3.50	11.50	12.00
29212	" " " " "	Boss Feed.....	Rockville.....	9.83	8.00	6.25	3.00	8.32	12.00
29251	" " " " "	Dairy Feed.....	Laurel	16.41	16.00	5.95	4.00	12.60	14.50
29218	" " " " "	Green Cross Horse Mixed Feed.....	Baltimore.....	10.71	10.00	3.65	2.50	10.22	12.00
29111	" " " " "	Poultry Mash.....	Baltimore.....	17.97	17 50	6.77	4.00	7.53	10.00
29229	" " " " "	Schumacher Calf Meal..	Cumberland...	19.74	19.00	8.08	8.00	3.07	3.00
49209	" " " " "	Schumacher Spec. Horse Feed.....	Baltimore.....	9.48	9.25	3.95	3 25	4.77	8.00
29139	" " " " "	Schumacher Stock Feed.	Hagerstown...	10.88	10.00	4.11	3.25	9.50	10.00
29274	Ralston Purina Co., St. Louis, Mo.	Cow Chop 24%.....	Baltimore.....	27.29	24.00	5 80	5.00	12.27	12.00
29177	" " "	Good Luck Feed.....	Baltimore.....	10.35	9.00	2.65	1.00	11.80	11.00
29275	" " "	Pig Feed.....	Baltimore.....	12.11	14.00	3.13	2.00	6.92	10.00
29312	" " "	Protena Dairy Feed....	Baltimore.....	17.81	16.50	3.95	3.50	9.60	12.00
29159	" " "	Purina Chicken Chowder	Baltimore.....	20.45	17.00	4.84	3.00	7.52	9.00
29240	" " "	Purina Chick Feed	Mt. Airy.....	10.35	11.00	3.08	3.00	2 32	4.00
29181	" " "	Purina Dairy Feed	Salisbury.....	21.85	20.00	4.67	3.80	15 10	15.00
29156	" " "	Purina Scratch Feed....	Baltimore.....	11.32	11.00	3.23	3.00	2.35	4.00
29244	Reindollar Bros. & Co., Taneytown, Md.	Rein-O-La-Chick Feed..	Taneytown....	7.90	9.00	2 58	3.00	1.30	3.00
29245	" " "	Rein-O-La-Poultry Mash	Taneytown....	11.23	12.00	2.85	3.00	2.35	4.00
29246	" " "	Rein-O-La-Scratch Feed	Taneytown....	8.69	9.00	3.13	2.00	2.07	3.00
29267	Republic Milling Co., East St. Louis, Ill.	Dairy Feed.	Rocky Ridge ..	17.20	16.50	5.76	3.00	11.75	12.00
29204	Ryde & Co., Chicago Ill.	Cream Calf Meal.....	Walkersville ..	26.32	25.00	5.53	5.00	4.87	6.00
29154	Wm. G. Scarlett & Co., Balto., Md.	Oriole Brand H. G. Beef Scraps.....	Baltimore.....	47.83	50.00	9.88	13.00	.62	1.00
29151	" " "	Oriole Brand H. G. Dry Mash.....	Baltimore.....	21.67	20.00	5.03	4.00	8.30	9.00

No.	Name of Manufacturer or Agent.	Name of Feeding Stuffs	Place of Sampling.	Protein.		Fat or Ether Extract		Crude Fiber.	
				FOUND.	Guaranteed.	FOUND.	Guaranteed.	FOUND.	Guaranteed.
29168	C. S. Shermerhorn & Son, Balto., Md.	Dried Beef Scrap.....	Baltimore.....	67.66	55.00	12 88	12.00	.65	1.00
29167	" " " "	Old Process Oil Meal...	Baltimore.....	35.10	31.50	6.31	7.00	7.50	10.00
29152	" " " "	Prime Cotton Seed Meal	Baltimore.....	37.82	41.00	7.87	6.00	9.77	10.00
29110	Schlitz Brewing Co., Milwaukee, Wis.	Purity Dried Grains....	Annapolis.....	27.73	24.00	6.18	6.00	15.40	16.00
29170	M. L. Shoemaker & Co,, Phila., Pa.	Ground Beef Scraps....	Baltimore.....	59.67	55.00	14.15	10.00	.80	
29248	W. A. Simpson & Co., Balto., Md.	Champion Brand Beef Scraps	Baltimore.....	45.89	50.00	15.13	10.00	.60	1.00
29182	W. Newton Smith, Balto., Md.	Dirigo Brand Cotton Seed Meal.....	Baltimore.....	42.21	41 00	8.28	7.00	8.55	6.00
29247	Somers & Co., San Francisco, Cal.	Red Star Brand Alfalfa Meal	Baltimore.....	13.34	16.60	2.43	1.40	29.10	29.50
29280	Spencer Kellogg & Sons, Buffalo, N. Y.	Old Process Oil Meal ...	Baltimore.....	34.49	33.00	6.02	5.00	7.72	10.00
29237	Standard Compressed Yeast Co., Baltimore, Md.	Monumental Brand Dried Grains.....	Baltimore.	19.57	18.24	8.73	5.64	17.95	
29233	Wm. H. Stellmann, Paltimore, Md.	G-B-S Brewers Dried Grains	Kennedyville..	25.10	29.06	6.45	9.97	14 75	12.62
29160	Stewart Distilling Co., Highlandtown, Md.	Distillers Rye Grains...	Baltimore	16.23	17.41	6.83	5.29	14.97	17.25
29171	D. A. Stickel, Hagerstown, Md.	Dairy Feed.....	Boonsboro.....	14.30		6.43		7.52	
29225	Sugarine Co., Peoria, Ill.	Dairy Feed.....	Cardiff	17.20	16 50	5.58	3.50	11.67	12.00
29302	" " " "	Horse Feed.....	Colora.....	10.02	10.00	3.58	2.50	10.35	12 00
29236	Swift & Co., Kearny, N. J.	Digester Tankage	Baltimore.....	61.86	60.00	7.33	8.00	1.80	3.00
29140	Taylor Commission Co., Atlanta, Ga.	Cotton Seed Meal	Silver Spring..	40.63	38.62	8.23	4.00	9 40	10.00

29230	Tecumseh Oil & Cotton Co., Tecumseh, Okla.	Cotton Seed Meal or Cake	Cumberland	39 40	40.00	6.43	6.00	12.50	10.50
29145	Thomas & Co., Frederick, Md.	Dairy Feed	Frederick	15.88	16.50	4.42	3.50	9.60	14.00
29285	Toledo Grain & Milling Co., Toledo, Ohio	Camps C. O. B. K. Chop Feed	Oakland	8.51	7.00	4.15	3.50	4.50	6.00
29260	Toledo Seed & Oil Co., Toledo, Ohio.	Old Process Oil Meal	Baltimore	30.89	30.00	6.38	5.00	8.70	10.00
29141	Ubiko Milling Co., Cincinnati, Ohio.	Biles Ready Ration	Wash. Grove	24.75	24.00	6.27	7.00	9.42	9.00
29243	Union Seed & Fert. Co., New York, N. Y.	Prime Cotton Seed Meal		39.22		7.35		11.87	
29283	" " " "	Prime Cotton Seed Meal	Baltimore	38.26	38.62	6.85	4.00	10.17	10.00
29142	Victor Cotton Oil Co., Gaffney, S. C.	Cotton Seed Meal	Frederick	37.82	38.62	5.79	4.00	11.25	12.00
29118	Vidalia Cotton Mill Co., Vidalia, Ga.	Standard Cotton Seed Meal	Baltimore	38.70		8 09		5.97	
29271	R. C. Wells & Co., Balto., Md.	Ground Beef Scraps	Baltimore	55.28	55.00	17 30	10.00	1.67	
29261	" " " " "	Prime Cotton Seed Meal	Baltimore	41.51	38.62	8.50	6.00	9.35	12.00
29143	Western Grain Products Co., Hammond, Ind.	Hammond Dairy Feed	Frederick	16.32	16.50	5.45	3.00	12.49	11.00
29213	" " " "	Hammond Horse Feed	Dickerson	14.30	12.00	5.11	2.80	12.07	11.00
29253	Wiseman Downs Co., Baltimore, Md.	Wisdom Brand Chick Food	Baltimore	11.76	10.00	3.60	3.00	2.87	3.20
26254	" " "	Wisdom Brand Scratch Food	Baltimore	10.71	10.30	3.60	3.00	2.65	3.30
29249	R. A. Woolridge Co., Baltimore, Md.	Beef Scrap	Pocomoke City	59.23	35.00	14.43	10.00	1.95	3.00
29144	Xtravim Molasses Feed Co., Boston, Mass.	Xtra Vim Feed	Frederick	4.43	4.61	.42	.81	4.29	4.00

Table II. Showing approximate average percent (pounds per hundred) of protein, fat and fiber in familiar substances.

	Protein.	Fat.	Fiber.
Meat Meal	70	12	1
Dried Blood	80	3	0
Cotton Seed Meal	40	8	7
Linseed Meal	35	7	9
Gluten Meal	32	6	2
Gluten Feed	25	3	7
Gem Oil Meal	24	9	7
Malt Sprouts	23	2	11
Dried Distillers' Grains (Corn)	30	11	11
Dried Distillers' Grains (Rye)	20	6	12
Dried Brewers' Grains	20	6	11
Wheat Middlings	17	5	5
Wheat Bran	15	4	8
Corn Bran	8	6	13
Corn Cobs	2+	0.5	30
Corn	10	5	2
Oats	12	5	10—
Wheat	12	2	2—
Barley	12	2	3
Buckwheat	10	2	9—
Cow Peas	21	1+	4
Timothy Hay	6	2.5	29
Clover Hay	12	3	25
Alfalfa	14	2	25
Cotton Seed Hulls	4	2	47
Oat Straw	4	2	37
Wheat Straw	3	1+	38
Cabbage	2+	0.4	1½
Turnips	1	0.2	1
Pumpkins	1+	0.4	2

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